

Listing of the Claims:

1-7. (Withdrawn)

8.-22. (Canceled)

23. (Currently amended) A method for identifying an interaction between a PDZ domain and a PDZ Ligand protein (PL protein) comprising:

(a) contacting ~~the~~ at least one PL protein to ~~a plurality of an array of~~ at least 5 PDZ-containing polypeptides of different amino acid sequence; and

(b) detecting binding of ~~the~~ at least one PL protein to one or more of the ~~plurality of~~ PDZ-containing polypeptides.

CJ 24. (Currently amended) The method of claim 23 wherein the array comprises at least 25 different PDZ-containing polypeptides of different sequence and detecting comprises detecting binding of the at least one PL protein to a plurality of the PDZ-containing polypeptides ~~the contacting occurs on an assay device that comprises the plurality of PDZ-containing polypeptides, which polypeptides include PDZ domains of different sequence and are organized in an array.~~

25. (Currently amended) The method of claim 23 wherein the array is contacted with a plurality of PL proteins; and an interaction between a one of the PDZ-containing polypeptides and more than one of the plurality of PL proteins is detected.

26. (Currently amended) The method of claim 23 wherein an interaction between a the at least one PL protein and more than one of the PDZ-containing polypeptides is detected.

27-30. (Withdrawn)

31. (Currently amended) ~~The method of claim 23 wherein~~ A method for determining binding affinity between a PDZ domain and a PDZ Ligand Protein (PL protein), the method comprising:

(a) providing an array of PDZ-containing polypeptides immobilized at different locations of the array;

~~(a) — the plurality of PDZ-containing polypeptides are immobilized at different locations of an array;~~

(b) ~~contacting comprises~~ contacting the immobilized PDZ-containing polypeptides of the array with a plurality of different concentrations of the PL protein; and

(c) ~~detecting comprises~~ determining the amount of binding of the at least one PL protein to the immobilized polypeptide(s) at at least one of the locations at each of the concentrations of PL protein, whereby the apparent affinity of binding between the PDZ-containing polypeptide and the PL protein is determined from the amount of binding at the different PL concentrations.

32. (Previously added) The method of claim 31 wherein the PDZ domain-containing polypeptides each comprise a PDZ domain and a non-PDZ domain that is bound to an immobilized immunoglobulin attached to a surface of the array.

33. (Previously added) The method of claim 31 wherein the PDZ domain-containing polypeptides are fusion proteins.

34. (Previously added) The method of claim 33 wherein the fusion proteins are GST-PDZ domain fusion proteins.

35-37. (Withdrawn)

38. (New) The method of claim 23 wherein the array comprises at least 40 PDZ-containing polypeptides of different amino acid sequence and detecting comprises detecting binding of the at least one PL protein to a plurality of the PDZ-containing polypeptides.

39. (New) The method of claim 38 wherein binding between the at least one PL protein to one or more of the PDZ- containing polypeptides is detected by an enzyme-linked immunoabsorbent assay (ELISA).

40. (New) The method of claim 23 further comprising determining for each complex formed between one of the PL proteins and one of the PDZ-containing polypeptides whether there is a statistical difference between a signal representative of the complex and a signal for a control, wherein only those complexes in which there is a statistical difference are identified as involving an PDZ domain/PL interaction.

41. (New) The method of claim 23 wherein the PDZ-containing polypeptides are immobilized on a support other than an electrophoretic gel.

42. (New) The method of claim 23 wherein each of the PDZ-containing polypeptides are immobilized in a well of a microtiter plate.

43. (New) A method for identifying an interaction between a PDZ domain and a PDZ Ligand protein (PL protein), comprising:

(a) contacting a PL fusion protein to an immobilized PDZ fusion protein under conditions whereby the PL fusion protein and the PDZ fusion protein react to form a complex, wherein the PL fusion protein comprises a PL sequence and a first epitope tag and the PDZ fusion protein comprises a PDZ domain and a second epitope tag; and

(b) detecting the complex by reacting the complex with a labeled antibody that recognizes the PL fusion protein or an antibody thereto.

44. (New) The method of claim 43 wherein the first epitope tag is biotin and the second epitope tag is GST.

45. (New) The method of claim 43 wherein
the PDZ fusion protein is immobilized to a support by an antibody that recognizes the second epitope tag of the PDZ fusion protein; and

the labeled antibody that recognizes the PL fusion protein recognizes the first epitope tag of the PL fusion protein.

46. (New) The method of claim 43 wherein the immobilized PDZ fusion protein is one of a plurality of immobilized PDZ fusion proteins arranged in an array.

47. (New) A method for identifying an interaction between a PDZ domain and a PDZ Ligand protein (PL protein), comprising:

(a) contacting a PDZ fusion protein with an immobilized PL fusion protein under conditions whereby the PL fusion protein and the PDZ fusion protein react to form a complex, wherein the PL fusion protein comprises a PL sequence and a first epitope tag and the PDZ fusion protein comprises a PDZ domain and a second epitope tag; and

(b) detecting the complex by reacting the complex with a labeled antibody that recognizes the PDZ fusion protein or an antibody thereto.

48. (New) The method of claim 47, wherein the first epitope tag is biotin and the second epitope tag is GST.

49. (New) The method of claim 47, wherein
the PL fusion protein is immobilized to a support by an antibody that recognizes the first epitope tag of the PL fusion protein; and

the labeled antibody that recognizes the PDZ fusion protein recognizes the second epitope tag of the PDZ fusion protein.

50. (New) The method of claim 47, wherein the immobilized PL fusion protein is one of a plurality of immobilized PL fusion proteins arranged in an array.
